

ABSTRACT OF THE DISCLOSURE

The propylene polymer of the present invention satisfies (1) a 25°C hexane soluble content (H25) of 0-80 wt%; and (2) either no melting temperature (T_m) measurable by differential scanning calorimetry (DSC), or a melting temperature (T_m) satisfying, if measurable by DSC, the following relationship: $\Delta H \geq 3 \times (T_m - 120)$ wherein ΔH is a melting endotherm (J/g). The propylene homopolymer of the present invention satisfies (1) a meso pentad fraction (mmmm) of 30-60 mol%; (2) a racemic pentad fraction (rrrr) satisfying the following relationship: $[rrrr/(1-mmmm)] \leq 0.1$; (3) a fraction (W25) eluted at a temperatures up to 25°C by temperature-programmed chromatography, of from 20-100 wt%; and, (4) a pentad fraction (rmrm) of more than 2.5 mol%. The propylene copolymer of the present invention satisfies (1) a stereoregularity index (P) of 55-90 mol% as determined by ¹³C-NMR measurement; and (2) a fraction (W25) eluted at a temperatures up to 25°C by temperature-programmed chromatography, of from 20-100 wt%.